

Work Order ID 129374

February-04-15 2:54:04 PM

129374

Page 1

Item ID: D6102-013 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Saddle Billet
 Start Date: 2/04/15 Start Qty: 80.00 ***80*** Cust Item ID:
 Required Date: 2/13/15 Req'd Qty: 80.00 ***80*** Customer:
 Reference:

Approvals: Process Plan: MLJ Date: 15-02-06 Tooling: _____ Date: _____
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____
 Run Start ***NR1***
 Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D6102	Rev D								

100 PURCHASING 0.00 80 15/02/11 80

100

Purchasing

Purchasing

Memo

Issue P/O: 27405 a) Description: Aluminum Billetb) 7.000" x 6.500" x 2.000" thickc) Tolerance on all dimensions is +0.06/0.00d) Grain direction along 6.500" lengthe) Material: 6061-T6/T6511 (QQ-A-250/11 or QQ-A-200/8)Material release certifi

110 Receive & Inspect for Damage & Mat'l Certs 0.00

110

Packaging

Packaging

Memo

Ensure material certification is attached

120 QC6- Inspect dimensions to drawing 0.00

120

QC

Quality Control

Memo

Check certification to Dwg D6102 for compliance

80 15/02/23 sf

DAS
14
9-89

1502/24

February-04-15 2:54:04 PM

1 29374

Page 2

N900040100

Setup Start *NS1*

Stop ***NS2***

80

Cust Item ID:

80

Customer:

Reference:

Run Start *NR1*

Stop *NR2*

**Insp.
Stamp**

0.00

130

Packaging

Memo

0.00

Packaging

0.00

140

QC

Memo

0.00

Quality Control

80

DAS

14

9-89

15/02/24

15/2/24 *[Signature]*

MF
15-2-24

February-04-15 2:54:04 PM

Page 1

129374

D6102-013

Required Date: 2/13/15

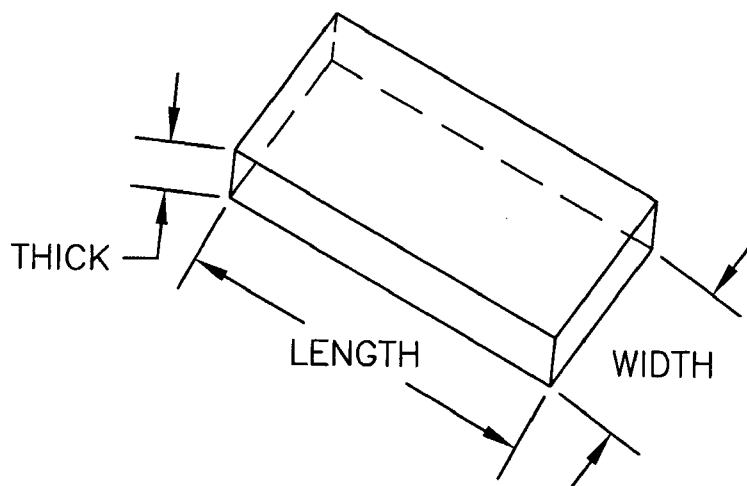
Required Qty: 80.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6102-013P		Purchased	No			110	Each	0.0000	1	80			
D6102-013P									**	80	sel	15/02/2	
6061-T6 7.0X6.5X2.0													



DESIGN #	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED CP	APPROVED #	DRAWING NO. D6102	Rev. D SHEET 1 OF 1
DATE 06.06.30		TITLE SADDLE BILLET, 6061	SCALE NTS
A	01.03.30	NEW ISSUE	
B	03.10.20	ADD D6102-005/-007/-009	
C	04.08.25	ADD D6102-010/-011	
D	06.06.30	ADD D6102-013	

SPECIFICATION CONTROL DRAWING



SHOP COPY
RETURN TO
DART AEROSPACE LTD
HAWKESBURY, ONTARIO
129334-ML9
15-02-06

RELEASED

06.08.15 #

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.06/-0.00), AND GRAIN DIRECTION AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.06/-0.00.

ALL DIMENSIONS ARE IN INCHES.

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6102-001	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	7.880	6.250	2.000	Along 7.880 Length
D6102-003	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	6.000	6.250	2.000	Along 6.000 Length
D6102-005	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	47.85	15.250	1.000	Along 47.85 Length
D6102-007	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	7.500	7.000	2.500	Along 7.500 Length
D6102-009	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	11.000	6.000	5.000	Along 11.000 Length
D6102-010	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	7.950	8.250	2.500	Along 7.950 Length
D6102-011	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	6.500	8.250	2.500	Along 6.500 Length
D6102-013	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	6.500	7.000	2.000	Along 6.500 Length

Copyright © 2001 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

**Castle Metals®**

A. M. Castle & Co.

PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 1 of 2

Shipment No:2509653

Ship From: A. M. Castle & Co. MONTREAL - CASTLE METALS 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2		Sold To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		Ship To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN		Deliver To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
Date Shipped 20-FEB-2015	F.O.B. ORIGIN	Freight Terms Prepaid		Carrier MANITOULIN		BOL No 2509653-2	

Shipment Details	Final Destination Branch - MON
-------------------------	---------------------------------------

Order No 3736570	Line No 1	Item No 8641.MO	Description 2.0000.PL.6061.T651.ALUMINUM.48.5000.144.5000 CUT 2SIDED TO 7 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 6.5")) X 6.5 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 6.5")) - ALUMINUM PLATE SAW SPECIFICATIONS: AMS-QQ-A-250/11		
Purchase Order No 27405		Part Number YOUR ITEM NUMBER: D6102-013 15/02/23		Ordered Qty 80.00 PCS	Invoice Qty 80.00 PCS

Details		END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS						
Delivery No.	Mill	Heat Number	Mech Id	PCS	Width (IN)	Length (IN)	Shipped Qty(LBS)	
119960127	KAISER ALUMINUM			45			410.1409	
119960127	KAISER ALUMINUM			35			318.9985	

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to US law prohibited.

Date Printed: 20-FEB-2015 11:13:12 AM



Castle Metals®

A. M. Castle & Co.

PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 2 of 2

Reviewed by Authorized Castle Metals Representative:



Date:
20 FEB. 2015

Name:

[Handwritten signature]

SHIP TO:

A M CASTLE & CO
14001 ORANGE AVE
P.O. BOX 1402
PARAMOUNT, CA 90723

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4360418

SOLD TO:

AM CASTLE & CO- SOLD TO
1420 KENSINGTON RD
SUITE 220
OAK BROOK, IL 60523

CUSTOMER PO NUMBER: 312971		WORK PACKAGE:	CUSTOMER PART NUMBER: 8641		SHIP RUN/LOAD: 103100/17	GOVT CONTRACT NUMBER:
KAISER ORDER NO: 1184105	LINE ITEM: 1	SHIP DATE: 14-JAN-2015	ALLOY: 6061	CLAD: BARE	TEMPER: T651	PRODUCT DESCRIPTION: KaiserSelect Precision Plate
WEIGHT SHIPPED: 5566 LB	QUANTITY: 4 PCS EST.	TRUCK B/L #: 2051831	GAUGE: 2.0000 IN (50.8000 MM)		DIAMETER/WIDTH: 48.500 IN (1231.9 MM)	LENGTH: 144.500 IN (3670.3 MM)

MHU 1854509: LOT 118683B2: 2 pieces;
MHU 1854512: LOT 118683B2: 2 pieces;

DAS
14
9-89
R 1502/24

Certified Specifications

AMS 4027/RevN
EN 10204-3.1/Rev2004

ASME SB 209/Rev2010

ASTM B 209/Rev14

Test Code: 1511

Test Results

Lot: 118683B2 Cast 202

Drop 47

Ingot 2



Melted in USA

(ASTM E8/B657)
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T651	LT / 2 (Min:Max)	49.6 : 49.7 (342 : 343)	44.8 : 45.0 (309 : 310)	13.7 : 13.9

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.74	0.6	0.32	0.12	1.0	0.18	0.10	0.02	0.01	0.00	TOT 0.05

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4360418

ALLOY LIMITS

	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
6061												
MIN(wt%)	0.40	0.0	0.15	0.00	0.8	0.04	0.00	0.00	0.00	0.00	EACH	0.05
MAX(wt%)	0.8	0.7	0.40	0.15	1.2	0.35	0.25	0.15	0.05	0.05	TOT	0.15

Aluminum Remainder

ORDER COMMENTS

AMC A96061-161 R 2
AMS 4027, ASTM B209

TEST NOTES

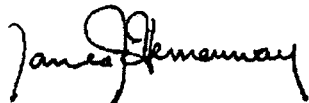
6061 sheet or plate certified to AMS 4025, AMS 4026, or AMS
4027 also meets applicable requirements of AMS-QQ-A-250/11,
Rev. A.

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC (Kaiser), is ISO-9001:2008/AS9100C certified and hereby certifies that all material shipped under this order:

- * has been inspected, tested, and found to be in conformance with the requirements of the specifications indicated herein. For material thicknesses outside specification limits, mechanical properties are as shown herein and chemical composition meets specification requirements.
- * was melted in the United States of America or a qualifying country per DFARS 225.872-1 (a), was manufactured in the United States of America, and meets the requirements of DFARS 252.225 for domestic content.
- * has been thermally processed in compliance with AMS 2772, where applicable.
- * is mercury free, within the limits of detection of ASTM E1251 (≤ 1 ppm).
- * is in compliance with RoHS 2, European Union Directive 2011/65/EU.
- * is in compliance with and regularly monitors any updates to the European Chemical Agency, ECHA, REACH regulations, (EC) n°1907/2006.
- * is free of Conflict Minerals, as defined in Section 15.2 of the Dodd-Frank Act.

Any warranty is limited to that shown on Kaiser Aluminum's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in full, without the written approval of the Kaiser Aluminum laboratory. The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony under federal law.



JAMES HEMENWAY, LABORATORIES SUPERVISOR



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO27405**

Purchase Order Date 2/11/2015

PO Print Date 2/11/2015

Page Number 1 of 2

Order From : VC-MET001
METAUX CASTLE
A.M. CASTLE & CO. (CANADA) INC. - C/O 910720
P.O. BOX 4090 STN A
TORONTO, ON M5W OE9
CA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name		Buyer	Chantal Lavoie
Vendor Phone	514 694 9575	Customer POID	
		Customer Tax #	10127-2607
Ship To Contact		Terms	Net 10
Ship To Phone		Currency	CAD
Ship Via:	VENDOR'S TRUCK	FOB	FCA - (Free Carrier)
Ship Acct:			

Line Nbr	Reference Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
----------	------------------------------	---------------------	-------------------	----	--------------------------	---------------	----------------

1	D6102-013P	6061-T6 7.0X6.5X2.0	2/27/2015		80.00	\$33.75	\$2,700.00
			Yes		Each		
			2/27/2015				

AS PER DWG D6102 REV. D
B129374
SIZE: 7.000" X 6.500" X 2.00" THICK
GRAIN DIRECTION ALONG 6.500"
MATERIAL 6061-T6/T6511 QQ-A-250/11
TOLERANCE AS PER QUOTE +.060"/-.000"

15/07/23
34

Line Total: \$2,700.00

2	71401-45	PROCUREMENT QUALITY CLAUSES	2/27/2015		1.00	\$0.00	\$0.00
---	----------	-----------------------------	-----------	--	------	--------	--------

No

2/27/2015

Procurement Quality Clauses
A005 RIGHT OF ENTRY
A012 CHEMICAL AND PHYSICAL TEST REPORTS
A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)
A026 CERTIFICATION OF MATERIAL CONFORMANCE
A040 NOTIFICATION OF QUALITY ESCAPE
A041 QUALITY MANAGEMENT SYSTEM
A042 DART NOTIFICATION BY SUPPLIER
A043 RETENTION OF QUALITY DOCUMENTS

Note:

2/11/2015



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO27405**

Purchase Order Date 2/11/2015

PO Print Date 2/11/2015

Page Number 2 of 2

Order From :

VC-MET001

Ship To : DART AEROSPACE LTD

METAUX CASTLE
A.M. CASTLE & CO. (CANADA) INC. - C/O 910720
P.O. BOX 4090 STN A
TORONTO, ON M5W OE9
CA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone

514 694 9575

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 10

Currency

CAD

FOB

FCA - (Free Carrier)

Ship To Contact

Ship To Phone

Ship Via:

VENDOR'S TRUCK

Ship Acct:

Line Total: \$0.00

PO Total: \$2,700.00

W
CL

Note: Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Change Nbr:

1

Change Date: 2/11/2015

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: D6102-013
 RECEIVED BY: _____
 DATE: 15/02/23
 P/O#: 27405
 QUANTITY ORDERED: 80
 THICKNESS ORDERED: 7.00 X 6.50 X 2.00
 SHEET SIZE: _____
 MATERIAL CERT RECEIVED: yes
 QUANTITY RECEIVED: 80
 THICKNESS RECEIVED: 7.00 X 6.50 X 2.00
 SHEET SIZE RECEIVED: _____

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y ☒ N	
INCORRECT FINISH	Y ☒ N	
CORROSION	Y ☒ N	
INCORRECT GRAIN DIRECTION	Y ☒ N	
INCORRECT MATERIAL	Y ☒ N	
INCORRECT THICKNESS	Y ☒ N	
PHOTO REQUIRED	Y ☒ N	
CORRECT MATERIAL	☒ Y N	
CORRECT REF # TO LINK CERT	☒ Y N	
CORRECT MATERIAL IDENTIFICATION	☒ Y N	
CORRECT M# ON THE MATERIAL	☒ Y N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y ☒ N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y ☒ N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>[Signature]</u>	BY: _____
DATE: <u>15/02/24</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

MATERIAL RECEIPT INSPECTION FORM

INSTRUCTIONS FOR INSPECTING BAR, TUBING, ROUND, & SHEET STOCK

- 1- VERIFY STOCK TO DART PURCHASES ORDER
- 2- MEASURE ALL DIMENSIONS FOR EACH PURCHASED STOCK
 - a. WIDTH, THICKNESS, DIAMETER, WALL THICKNESS & LENGTH
- 3- VERIFY CONDITION OF MATERIAL i.e. DAMAGED, CORRODED, etc.
- 4- VERIFY THAT SUPPLIER HAS A NUMBER (HEAT #) ON ITS RECEIVING REPORT TO LINK TO MATERIAL CERTS
- 5- VERIFY MATERIAL CERTS ARE CORRECT TO THE DART PO INSTRUCTIONS
- 6- REMOVE / CUT A PIECE OF MATERIAL FOR SAMPLE HARDNESS TESTING

INSTRUCTIONS FOR INSPECTING SKIDTUBE & STEP EXTRUSION

- 1- VERIFY TO DART SUPPLIED DRAWING
- 2- SAMPLE INSPECT MATERIAL IN BUNDLE TO ENSURE MATERIAL CAN BE RECEIVED INTO DART
- 3- USING PORTABLE HARDNESS TESTER VERIFY HARDNESS OF THE MATERIAL TO THE DRAWING
- 4- VERIFY THAT MATERIAL CERTS MATCH TO WHATS CALLED UP ON THE DART DRAWING

AFTER MATERIAL PASSES INSPECTION

- 5- HAVE DART EMPLOYEES START STOCKING MATERIAL BUT REQUEST MIN 20pcs FOR FULL INSPECTION
- 6- INSPECT ALL DIMS AS PER DRAWING REQUIREMENTS

INSTRUCTIONS FOR INSPECTING CROSS TUBE MATERIAL

- 1- VERIFY MATERIAL CERTS MATCH THE REQUIREMENTS ON THE DART DRAWINGS
- 2- INSPECT MIN. HALF THE BATCH OF EXTRUSION RECEIVED INTO DART
- 3- INSPECT MATERIAL AS PER THE EXTRUSION REPORT
 - a. WALL THICKNESS USING ULTRA-SONIC IN 4 LOCATIONS
 - b. OUTSIDE DIAMETER HIGHEST/LOWEST BOTH ENDS
 - c. INSIDE DIAMETER HIGHEST/LOWEST BOTH ENDS
 - d. STRAIGHTNESS @ CENTER OVER 12" SPAN
 - e. WALL THICKNESS USING TUBE MICROMETER HIGHEST/LOWEST BOTH ENDS
- 4- IDENTIFY EACH TUBE IN SEQUENCE OF INSPECTING (TUBE 1, TUBE2.....) AND W/O# AND PO#
- 5- RECORD ALL FINDINGS ON EXTRUSION REPORT

IF ANY QUESTIONS PLEASE SEE QC COORDINATOR BEFORE GOING FURTHER